To: JAMES D WALKER[jameswalker5@msn.com]
From: Rumrill, Nancy
Sent: Tue 9/5/2017 10:02:08 PM
Subject: FW: Neutron Density Logging

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United States Environmental Protection Agency

Nancy Rumrill (rumrill.nancy@epa.gov)

Drinking Water Protection Section (WTR-3-2)

US EPA, Region IX

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From: Alison Jones [mailto:ajones@clearcreekassociates.com]
Sent: Tuesday, September 5, 2017 2:29 PM
To: Rumrill, Nancy <Rumrill.Nancy@epa.gov>; Albright, David <Albright.David@epa.gov>
Cc: Rebecca Sawyer (rsawyer@excelsiormining.com) <rsawyer@excelsiormining.com>; Doug Bartlett <DBartlett@clearcreekassociates.com>; stwyerould@excelsiormining.com
Subject: Re: Neutron Density Logging

Hi Nancy,

Excelsior has been mulling over the neutron density logging issue. They continue to have concerns about the safety and value of the data for several reasons—as follows:
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As discussed in our last conference call with EPA, Excelsior views the neutron density log as high risk due to the use of a tool with a radioactive source. Losing this tool in a boring to be used to transmit low pH solutions would potentially cause the unnecessary release of radioactive material to groundwater. Furthermore, the principal use of this tool is to measure porosity. Porosity was used in the design phase of this project primarily to develop a rinsing plan. In practice, however, the success of rinsing will be determined using water quality measurements to decide when rinsing is completed. Excelsior will not be using rinse volumes as a measure of rinsing success; therefore, additional measurements of porosity are not necessary. In this particular insitu mine setting, mining will occur in the secondary porosity induced by fracturing. The neutron density tool cannot distinguish between primary and secondary porosity, therefore, the information gleaned from the log can only approximate the value of porosity important to this mining operation. For all these reasons, Excelsior does not see any benefit to doing the neutron density log.

Please share this with Jim Walker if you see fit and we will be prepared to discuss it during the call on Thursday.

Thank you,

Alison H. Jones, R.G.

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